



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,304	09/27/2000	Thomas Maurer	EYEM1100	7023

25548 7590 07/15/2003

MARK M. TAKAHASHI
GRAY CARY WARE & FREIDENRICH, LLP
4365 EXECUTIVE DRIVE, SUITE 1100
SAN DIEGO, CA 92121-2133

EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
----------	--------------

2623

DATE MAILED: 07/15/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,304

Applicant(s)

MAURER ET AL.

Examiner

Virginia M Kibler

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.6. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 2/26/01 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

2. Claims 10 and 12 are objected to because of the following informalities: "preformed" should be changed to "perform" in Claim 10, line 9; and "A method for A method for" should be changed to "A method for" in Claim 12, line 16. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Davis, Jr. et al. (5,839,000).

Regarding claim 12, Davis, Jr. et al. ("Davis") discloses a method for determining a state of a person in that the state of the person is the degree to which an eye is closed (Col. 3, lines 17-25).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-3, 6-11, and 13 are rejected under 35 U.S.C. 102(a) as being anticipated by Maurer et al. (WO 99/53443).

Regarding claim 1, Maurer et al. ("Maurer") discloses a method for determining a state of a person including automatically defining a region of interest in an image indicative of a predetermined feature (Page 7, lines 19-21) of the person using topology, or an early vision cue (Page 13, lines 11-17); and automatically finding the location of the predetermined feature in the defined region of interest using elastic bunch graph matching (Page 10, lines 8-9).

Regarding claim 2, the arguments analogous to those presented above for claim 1 are applicable to claim 2. Note, Maurer discloses roughly locating the region of interest and finding the location of the predetermined feature commencing at a rough location provided by the step of defining the region of interest (Page 11, lines 5-7).

Regarding claim 3, Maurer discloses the early vision cue including topology (Page 13, lines 11-17).

Regarding claim 6, Maurer discloses the predetermined feature as the person's face and the state of the person is described by nodes positions of facial elements (Page 7, lines 12-21).

Art Unit: 2623

Regarding claim 7, Maurer discloses that the image is in a sequence of images and the location of the predetermined feature is tracked in a subsequent image (Page 17, lines 3-5).

Regarding claim 8, Maurer discloses an erroneous location of the predetermined feature is corrected based on a model of typical facial features (Page 26, lines 12-21 and Page 27, lines 19-21).

Regarding claim 9, Maurer discloses reinitializing the tracking of the location of the predetermined feature based on a predicted location of the predetermined feature (Page 29, lines 4-7 and Page 17, lines 20-21).

Regarding claim 10, Maurer discloses the reinitializing step is performed using bunch graph matching (Page 29, lines 14-19).

Regarding claim 11, Maurer discloses a method for determining a state of a person further including using the location of the predetermined feature for animating a graphical head model (Page 7, lines 13-16 and Page 9, line 1).

Regarding claim 13, the arguments analogous to those presented above for claim 1 are applicable to claim 13.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2623

8. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer et al. (WO 99/53443) as applied to claim 1 above, and further in view of Wurtz (*Object Recognition Robust Under Translations, Deformations, and Changes in Background*).

Regarding claim 5, Maurer does not appear to recognize defining the region of interest including background suppression. However, Wurtz teaches that it is known to include background suppression (Sect. 2.4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the region of interest disclosed by Maurer to include background suppression, as taught by Wurtz, in order to provide recognition with background independence.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer et al. (WO 99/53443) as applied to claim 3 above, and further in view of Steffens et al. (*PersonSpotter – Fast and Robust System for Human Detection, Tracking, and Recognition*).

Regarding claim 4, Maurer does not appear to recognize including stereovision to produce disparity histograms and silhouette images. However, Steffens et al. (“Steffens”) teaches that it is known to use stereovision to produce disparity histograms and silhouette images (Sect. 2.2, Para. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the tracking disclosed by Maurer (Page 8, lines 15-20) to include stereovision to produce disparity histograms and silhouette images, as taught by Steffens, as an alternative method of tracking.

Conclusion

Art Unit: 2623

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,222,939 to Wiskott et al. for labeled bunch graphs for image analysis.

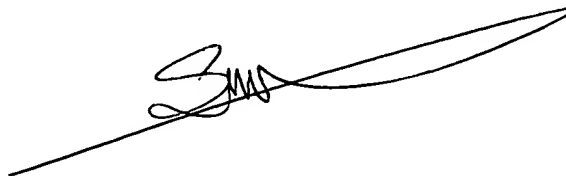
Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon. - Thurs. 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

VK
July 11, 2003

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal line extending to the left.

**SAMIR AHMED
PRIMARY EXAMINER**